

EXHIBIT A

Clean Version of Amended Claims

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1. (Amended) A process for purifying a monoolefin stream, comprising:

contacting a monoolefin stream comprising one or more monoolefins with a Diels-Alder dienophile to convert one or more conjugated olefins present in the monoolefin stream to a Diels-Alder adduct;

and removing the Diels-Alder adduct from the monoolefin stream, thereby purifying the monoolefin stream such that it comprises less than about 50 parts per million (ppm) conjugated olefins.

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2. ~~Cancelled.~~

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5. (Amended) A process according to claim 1 wherein said conjugated olefins comprise at least about 4 carbon atoms per molecule and no more than about 10 carbon atoms per molecule.

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12. (Amended) A process according to claim 1 wherein said purified monoolefin stream comprises less than about 25 parts per million conjugated olefins.

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13. (Amended) A process according to claim 1 wherein said purified monoolefin stream comprises less than about 10 parts per million conjugated olefins.

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14. ~~Cancelled.~~

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15. (Amended) A process according to claim 1 wherein said removing is selected from the group consisting of distillation, adsorption, membrane separation, and combinations thereof.

16. (Amended) A process according to claim 1 wherein said removing is conducted using  
*AF*  
reactive distillation.

New Claims:

19. The process according to claim 1 wherein said Diels-Alder dienophile is generally represented by the formula:



$R^1 = H, C(=O)OR^5, C(=O)R^6, C(=O)NR^7R^8, CN, C_1$  to  $C_{30}$  alkyl, and aromatic,

$R^2 = H, C(=O)OR^5, C(=O)R^6, C(=O)NR^7R^8, CN, C_1$  to  $C_{30}$  alkyl, and aromatic,

$R^3 = H, C(=O)OR^5, C(=O)R^6, C(=O)NR^7R^8, CN, C_1$  to  $C_{30}$  alkyl, and aromatic,

$R^4 = H, C(=O)OR^5, C(=O)R^6, C(=O)NR^7R^8, CN, C_1$  to  $C_{30}$  alkyl, and aromatic,

$R^5 = C_1$  to  $C_{10}$  alkyl, aromatic, and  $(H)C=CH_2$ ,

$R^6 = C_1$  to  $C_{10}$  alkyl, aromatic, and  $(H)C=CH_2$ ,

$R^7 = C_1$  to  $C_{10}$  alkyl, aromatic, and

$R^8 = C_1$  to  $C_{10}$  alkyl, and aromatic.

20. The process according to claim 1 wherein said Diels-Alder dienophile is generally represented by the formula:



$R^1 = H, C(=O)OR^3, C(=O)R^4, C(=O)NR^5R^6, CN, C_1$  to  $C_{10}$  alkyl, and aromatic,

$R^2 = H, C(=O)OR^3, C(=O)R^4, C(=O)NR^5R^6, CN, C_1$  to  $C_{10}$  alkyl, and aromatic

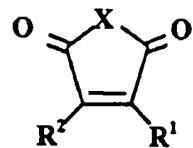
$R^3 = C_1$  to  $C_{10}$  alkyl, and aromatic,

$R^4 = H, C_1$  to  $C_{10}$  alkyl, and aromatic,

$R^5 = C_1$  to  $C_{10}$  alkyl, and aromatic, and

$R^6 = C_1$  to  $C_{10}$  alkyl, and aromatic.

21. The process according to claim 1 wherein said Diels-Alder dienophile is generally represented by the formula:



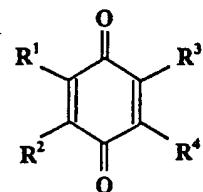
where  $X = O, N$ , and  $S$ ,

$R^1 = H, C_1$  to  $C_{10}$  alkyl, and aromatic, and

$R^2 = H, C_1$  to  $C_{10}$  alkyl, and aromatic.

*AS*

22. The process according to claim 1 wherein said Diels-Alder dienophile is generally represented by the formula:



where

$R^1 = H, C_1$  to  $C_{10}$  alkyl, aromatic, and  $(H)C=CH_2$ ,

$R^2 = H, C_1$  to  $C_{10}$  alkyl, aromatic, and  $(H)C=CH_2$ ,

$R^3 = H, C_1$  to  $C_{10}$  alkyl, aromatic, and  $(H)C=CH_2$ , and

$R^4 = H, C_1$  to  $C_{10}$  alkyl, aromatic, and  $(H)C=CH_2$ .